

US.Pat.Ap.Nr. 10/077,846

Docket 268-5708

## REMARKS

as submitted in response to O/A dated 16 July 2003

1. We have added new drawing Fig 16. The new drawing is added to the list in (amended) paragraph [0010/1], and description thereof has been added in new paragraph [0084a]. The drawing illustrates only that which was claimed in as-filed claim 13. No new subject matter has been added.

2. Claims 1,6,33 have now been amended by the introduction of the limitation to the treatment of water having a high c-BOD. In view of the proposed allowability of claims 14 and 59, it is submitted that this added limitation renders claims 1,6,33 allowable.

The introduction of the "air passage" feature into claims 1,6 further distinguishes those claims from the prior art.

3. We feel the PTO position on dimensional limitations in patent claims is incorrect. Since many of the claims that have been rejected under 35 USC 103 have been rejected on what we consider to be this mistaken basis, we ask that the following detailed comments on the subject be carefully reviewed.

It is perfectly acceptable to express a limitation in an apparatus claim as a dimensional limitation. A limitation that is expressed in dimensions should be treated like any other limitation, for 35 USC 103 purposes. The claim must be construed as a whole. The question under '103 is: *Does the claim, construed as a whole, read onto an apparatus that is a merely obvious variation of an old apparatus that is depicted in the prior art?* The PTO appears to have asked the wrong question, namely: *Is the claim distinguished only as regards some dimensions from an old apparatus depicted in the prior art?*

4. Re paragraph 6 of the O/A, we cannot see that a recitation of "typical" in association with a dimension amounts to a teaching to change that dimension to some particular new value. Skilled designers are presumed to be pursuing, within the teachings of the prior art, a constant quest for optimisation when it comes to adapting prior art structures to their own particular manner of usage. But the fact that a general desire exists to optimise all dimensions does not amount to a teaching to single out this or that particular old dimension, and to change it to some particular new value.

5. The O/A states, in parag 8.  
*Claims 1-4, 8, 33-35, 37, 38, 44-50 and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over ZALUSKI.*  
*Claims 1-4, 8, 33-35, 37, 38, 44-50 and 58 differ from ZALUSKI in recitation of sizing, both length and width. It is submitted that since*

*ZALUSKI does not disclose a specific size, that the sizing would have been a matter of optimization for one skilled in the art, depending on the quantity to be treated, the amount of contamination, and other variables, and therefore fails to patentably distinguish over ZALUSKI.*

Again, of course, the skilled person must be credited, generally, with thinking carefully about a design, and with weighing whether to make changes to various aspects of a prior design. The fact that the prior art encourages the expert to experiment really does not make any difference to the teaching attributable to the reference: the skilled person must be credited in any event with the motivation to experiment. Naturally, the expert will wish to make the changes in such manner as to make the apparatus perform better.

Furthermore, we do not accept that *since ZALUSKI does not disclose a specific size means that ZALUSKI discloses and teaches more than if he had disclosed a specific size.* It seems to be the PTO position here that, because ZALUSKI fails to disclose information as to size, therefore ZALUSKI teaches all sizes, and all variations of sizes. We feel this is outrageous. Still more outrageous is the notion that, because ZALUSKI gives no details as to sizes and dimensions, therefore ZALUSKI teaches the skilled person to make an apparatus of such specific sizes and dimensions that it will fall within the scope of our claims.

The PTO has indicated the reasons for its obviousness rejection v. ZALUSKI in paragraph 8. We feel these reasons are inadequate, as they stand. As such, it is our position that the PTO has not made out a prima facie case of obviousness in respect of the claims rejected v. ZALUSKI.

6. But at least in the v. ZALUSKI rejections, the PTO has furnished at least the form of an explanation, inadequate though it is, as to why the skilled person would be led towards making certain changes to the ZALUSKI apparatus. In the other '103 rejections, the PTO gives no hint at all of any reasoned explanation.

As such, it is our position that the PTO has not made out a prima facie case of obviousness in respect of any of the claims rejected under 35 USC 103.

Generally, in a 35 USC 103 rejection, the PTO is obliged to give a reasoned explanation of teaching, as to why the skilled person would be led to make the changes to the old apparatus that result in a new apparatus that falls within the scope of the rejected claim. The exception to this general obligation arises when a new apparatus, which falls within the scope of the claim, differs from an old apparatus simply by being scaled up or down. In that case, the PTO can make out a prima facie case of obviousness simply by pointing out that the new apparatus differs only as a matter of scale, and no further reasoned explanation of teaching is required.

The *in re Rose* case confirms the presumption that, where an old apparatus of a certain size is disclosed in the prior art, there is no invention in making a new apparatus that differs from the old apparatus only in that the new apparatus is of a different size: *mere scaling up of a prior art process . . . would not establish patentability in a claim to an old process so scaled.*

But the precedents, and MPEP 2144.04, make it clear that the presumption of obviousness only applies when the old apparatus has been merely scaled up or down). Incidentally, even when the new apparatus does differ only as to scale, it is still possible that the new apparatus might come to be regarded as inventive -- if the apparatus with the new dimensions does not just perform in a scaled up or scaled down manner, but performs in a different manner, from the old apparatus, and if the new manner of performance or function is attributable to the change of size.

The point is that the burden is on the applicant to prove inventiveness, if the new apparatus differs from the old apparatus merely as to scale. If the PTO points to a new apparatus that differs from an old prior art apparatus only by being scaled up or down, and the new apparatus is covered by the claim, it is clear that the burden does now pass to the applicant to provide evidence or other indication of some new aspect of performance or function, in the new apparatus, that is attributable to the change of size.

In other words, where the claim covers a new apparatus that differs from an old apparatus merely by being scaled up or down, it is clear that the PTO can make a *prima facie* case of obviousness simply by pointing out that fact. In that case, the PTO does not need also to point out a teaching reference, i.e. a reference that would have the effect of leading the skilled person in the direction of making that change of scale.

But the burden of having to prove non-obviousness should be passed to the applicant only if the new apparatus (as covered by the claim) differs from the old prior art apparatus merely by being scaled up or down. The burden should not be passed to the applicant if only some of the dimensions have been changed. If, in order to arrive at the new apparatus from the old apparatus, the skilled person has to change only some of the dimensions of the old apparatus, that means the skilled person must have selected which dimensions to change. In that case, the simple *prima facie* presumption of obviousness disappears.

Where only some of the dimensions of the old apparatus are changed, the situation is that the PTO is now under the usual obligation (i.e. the usual obligation in 35 USC 103 rejections) to provide a reasoned explanation as to the basis or teaching or reasons how/why the skilled person would be led to change only those dimensions, while leaving other dimensions unchanged. If, in a case where only some of the dimensions are changed, the PTO fails to provide a reasoned explanation as to where that teaching comes from, the PTO has not made out a *prima facie* case of obviousness.

Thus, in the present case, the PTO points, for example, to the chamber 10 as depicted in Fig 6 of var. The PTO says the skilled person would find it obvious to reduce the width of the chamber, while keeping the length of the chamber the same. But, in order for the expert to make a change like that to an old apparatus, the expert is required to perform an act of selection. If there is one thing that is not prima facie obvious, it is an act of selection.

To summarise our position: Under a 35 USC 103 rejection, the PTO is obliged to provide a reasoned explanation as to how/why the skilled person would be led towards making the changes to an old apparatus that result in a new apparatus that falls within the scope of the claim. If the PTO simply alleges that "it is obvious" to make this or that change to an old apparatus, with no explanation, the PTO in that case has failed to make out a prima facie case. The exception to the PTO having to provide a reasoned explanation as to how/why the skilled person would make the change arises when the new apparatus differs from the old apparatus merely by being scaled up or down. In that case, but only in that case, the PTO need not give the usual reasoned explanation, in order to make out a prima facie case of obviousness. That is how we read MPEP 2144.04 and the precedents referred to therein.

In this present case, in the rejections under 35 USC 103, the PTO has simply alleged, without giving reasons, that the skilled person would find it obvious to change dimension A, but keep dimension B the same, of an old apparatus. That being so, the PTO has not made out a prima facie case of obviousness.

7. The above points apply to all the claims that have been rejected only under 35 USC 103. That is to say: claims 3,8,10-12,33-40,44-58. It is our position that these claims have been rejected wrongly, in that the PTO has simply said the rejected claim is not patentably distinguished from the various references, without basis or explanation. We repeat our view that a simple no-basis-need-be-given allegation that a claim is obvious is not enough, as we understand the MPEP and the precedents, under '103, unless the new apparatus covered by the claim is a merely scaled up or scaled down variant of an old apparatus.

8. If the PTO should decide to continue the '103 rejections, we would then request to be informed, in respect of each '103-rejected claim, as to just what dimensions of the old apparatus would have to be changed, and to what, or by what, in order to arrive at a new apparatus that falls within the scope of the claim. We would also then request to be informed as to just what, in the prior art, teaches or leads the skilled person towards changing just some of the dimensions, and towards changing them to such values and magnitudes as are required to fall within our claim.

Even in a case where a new apparatus, which falls within the scope of the claim, did differ from an old apparatus merely as to scale, it would be

legitimate for the applicant to request to be informed as to just what multiplication factor the PTO is using to scale the old apparatus up or down. In this present case, it is clearly impossible for a simple multiplication or scale factor to be applied to the old apparatuses, that would result in new apparatuses that fall within the scope of our claims. But if the PTO feels there is such a scale factor, we ask to be informed what it is. (Better still, of course, would be for the rejections to be withdrawn, and the claims allowed.)

9. As to the benefits that arise from our particular new arrangement of dimensions, given that we do not know what the teaching is that would lead the skilled person to change some of the dimensions, we can only repeat generally what is contained in the specification. The invention here lies in making the treatment apparatus in the form of a long narrow pipe or trough. We do not suggest that providing a "treatment pipe" leads to an improvement in the bio-chemical effectiveness of the treatment; what we do claim is that the geometry of the treatment pipe enables a comparably adequate level of bio-chemical effectiveness still to be achieved, but now with a much improved efficiency of utilisation of premium space. This improvement is fully explained in the text.

10. Of claims 1-32, claims 5,13,14,16,17,19,20,24,28-32 have been indicated as allowable, subject to the provisos as mentioned.

Claims 13,16,24,28 have been re-presented as independent claims. Claims 5,14,17,19,20,29-32 have retained their dependencies.

It is submitted that all claims as now presented are allowable in view of the current amendments.

11. It is noted that claim 14 was considered allowable. We have now introduced most of the text of claim 14 into independent claims 1 and 6. That is to say, the features of claim 14 that served to distinguish claim 14 from the prior art are now recited in claim 1 and claim 6. Therefore, claim 1 and claim 6 are now patentably distinguished from the prior art.

Claim 14 is still present, however, in amended form, and retains some of the more restrictive features of claim 14.

12. Claims 1,2,4,6,7,9,15,18,22,23,25-27 are rejected under 35 USC 102.

We have distinguished these claims as follows:

- claims 1 and 6 are distinguished from VAIL, ZALUSKI, and SCANZILLO in that claim 1 now defines the water undergoing treatment as sewage-water. Regarding SCANZILLO: as we understand it, SCANZILLO's incubator is disclosed as floating in a body of polluted water; however, we can see no suggestion in SCANZILLO that his polluted water is sewage water from a septic tank, as